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NETWORK SERVICES

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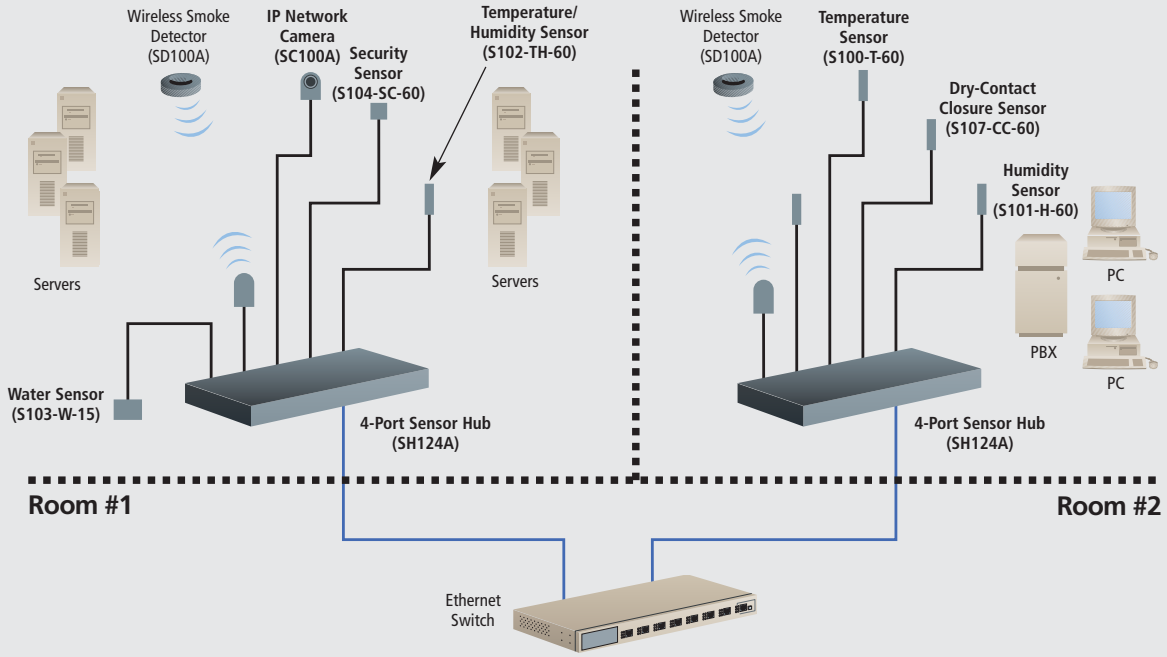
AlertWerks

The complete environmental monitoring system for your data center.

FEATURES

- This fully integrated environmental monitoring system includes environmental sensors and a security camera.
- Easy network integration.
- Monitors temperature, humidity, water, and more.
- Sensor Hubs feature two or four sensor ports. Some hubs also have serial ports that act as Serial Device Controllers.
- Serial Device Controllers offer access to your network devices' console ports as well as serial devices such as printers.
- Manage the system through a Web browser using the Sensor Hubs' integral Web servers.
- Or manage the system through SNMP, using any standard SNMP Management software such as HP OpenView.
- Network Sensor Hub Manager Software makes it easy to manage multiple hubs.
- Use the IP Network Camera for a bird's-eye view of trouble spots.

One system protects network devices as well as other nearby equipment such as PBXs.



OVERVIEW

You back up your servers, you install the latest virus protection, you keep your firewall up to date. But do you also guard against physical threats to your data center? Do you have hot spots in those racks? If the air conditioning breaks down, how long before you get the message that temperatures are climbing out of control? If a sprinkler system goes off, will you know? Has someone been in your cabinets?

Temperature, humidity, water, and even vandalism are real threats to any data center and can shut you down faster than the latest virus making the rounds on the Internet.

AlertWerks is an IP-based environmental monitoring system that alerts you when conditions in your data center—or anywhere else you need to protect—exceed pre-defined limits. So when things go wrong, you're the first to know. Environmental monitoring helps minimize downtime by alerting you to conditions that cause damage to servers and other network devices.

This fully integrated system is based on "smart" managed Sensor Hubs that work with sensors to track conditions such as temperature, humidity, water, airflow, and more. Most sensors enable you to set minimum and maximum thresholds for triggering an alarm, so you can customize the system to your particular demands. The Security Sensor acts as a burglar alarm by alerting you when the doors to your server room, cabinets, or other secure area are opened.

But there's more to this system than just sensors—a network camera provides a real-time view of what's going on in your data center. Combine it with the utility software for incredible versatility in programming photos or video, in storing and managing images, and in controlling pan and zoom features.

Serial ports on the Sensor Hubs and the freestanding Serial Device Controllers function as full-featured serial console servers that enable you to also use the system to access the serial console ports on your network devices. Plus, you can use them to access other serial devices such as printers.

The entire AlertWerks system is fully manageable through any standard Web browser or an SNMP management program such as HP® OpenView®. You can set it to automatically notify you by e-mail, page, or SNMP traps whenever conditions in your data center exceed limits that you determine. Sensor Hubs even include a modem port, so you can dial in remotely to access management features even if your network goes down.

	Sensor Ports	Serial Ports	External Temperature Sensor	External Humidity Sensor	External Temperature/ Humidity Sensor	Internal Temperature/ Humidity Sensor	Integral Web Server	Modem Port	SNMP	E-mail Alerts
SH124A	4	2	—	—	—	✔	✔	✔	✔	✔
SH102A-T	2	0	✔	—	—	—	✔	✔	✔	✔
SH102A-TH	2	0	✔	✔	—	—	✔	✔	✔	✔
SH102A-CTH	2	0	—	—	✔	—	✔	✔	✔	✔
SH122A	0	2	—	—	—	—	✔	✔	✔	✔

SH124A

SH102A-T

TECH SPECS

Management — SNMP, MIB-II
Memory — 128 KB with 2 KB NVRAM; EPROM: 256 KB
Modem — 9600 baud
Processor — 68HC000 with SMC91C96 Ethernet coprocessor
Protocols — HTTP, DHCP, DNS, ICMP, IP, PPP, RARP, RIP, SLIP, TCP, UDP, Rlogin, Telnet
Serial Interface — SH124A, SH122A: RS-232C, accepts 4-, 6-, and 8-pin plugs, 50 to 115,200 bps, full modem control, hardware and software flow control
CE Approval — With optional 220-VAC power supply
Connectors — Network Interface: All: RJ-45 10BASE-T;
Sensor Ports: SH124A: (4) RJ-45;
SH102A-T, SH102A-TH, SH102A-CTH, SH122A: (2) RJ-45;
Serial Ports: SH124A: (2) RJ-45; SH122A: (2) RJ-45;
Modem: All: (1) RJ-11
Indicators — SH124A: (1) Power, (1) CX, (1) TX, (4) Sensor, (1) Modem, (2) Serial;
SH102A-T, SH102A-TH, SH102A-CTH: (1) Power, (1) Link, (1) Activity, (2) Sensor;
SH122A: (1) Power, (1) Link Integrity
Environmental —
Operating Temperature: SH124A, SH122A: 32 to 122° F (0 to 50° C); SH102A-T, SH102A-TH, SH102A-CTH: 32 to 158° F (0 to 70° C);
Storage Temperature: 14 to 158°F (-10 to +70° C);
Humidity: 10 to 95%, noncondensing
Power — 120-VAC, 60-Hz external power supply;
Optional 220-VAC power supply
Size — SH124A: 1.75"H (1U) x 19"W x 4.75"D (4.4 x 48.3 x 12.1 cm);
SH102A-T, SH102A-TH, SH102A-CTH: 1.6"H x 4.75"W x 2.5"D (4.1 x 12.1 x 6.4 cm);
SH122A: 1.2"H x 5.9"W x 3.25"D (3 x 15 x 8.3 cm)
Weight — SH124A: 1 lb. (0.5 kg);
SH102A-T, SH102A-TH, SH102A-CTH, SH122A: 0.4 lb. (0.2 kg)

Sensor Hubs

AlertWerks Sensor Hubs provide an intelligent link between AlertWerks Sensors and your Ethernet network. The hubs have a built-in Web server, so you can access them across your IP network with any standard Web browser. You can also manage the hub through Telnet™ or any standard SNMP management software such as HP® OpenView®. Hubs also feature a modem port so you can access them remotely even if your network is down.

When a sensor connected to a hub triggers an alarm, the hub can e-mail or page you and send SNMP traps to up to ten locations.

Although the Sensor Hubs require no additional software, Network Sensor Hub Manager Software (**page 4**) enables you to manage multiple hubs from one screen.

The **4-Port Sensor Hub** features four ports to connect external sensors. Two additional serial ports function as a console server to provide access to network devices' serial console ports or for use as a print server. The 4-Port Sensor Hub has an internal temperature/humidity sensor and is rackmountable in only 1U of space.

2-Port Sensor Hubs are available in a variety of sensor configurations: temperature, humidity, or temperature plus humidity. Or choose a 2-port sensor with two serial ports for access to your network devices' console ports.

Item	Code
AlertWerks Sensor Hubs	
4-Port with (2) RS-232 Data from Power Strip Ports and Internal Temperature/Humidity Sensor	**SH124A**
2-Port	
with 12-inch (30.5-cm) Temperature Sensor	**SH102A-T**
with 12-inch (30.5-cm) Temperature Sensor and 12-inch (30.5-cm) Humidity Sensor	**SH102A-TH**
with 12-inch (30.5-cm) Combination Temperature and Humidity Sensor	**SH102A-CTH**
with (2) RS-232 Data Ports from Power Strip	**SH122A**
220-VAC Power Supplies for Sensor Hubs	
UK	**SH100PS-UK**
EU	**SH100PS-EU**

Sensor Hub Manager Software

AlertWerks Network Sensor Hub Manager Software provides easy management of Sensor Hubs. Although Sensor Hubs have integral Web servers for management and do not require additional software, this software package speeds management by enabling you to manage multiple Sensor Hubs from one screen. You can view data, create reports, change settings, view status, and more without having to log onto each hub individually.

The software also enables you to export raw data for use in preparing reports or graphs.

TECH SPECS

Operating System — Windows® 98/SE, Me, 2000, SP4, XP, SP2, or Windows Vista™

Item	Code
AlertWerks Network Sensor Hub Manager Software	
10-Sensor License	**SH100-10**
25-Sensor License	**SH100-25**
50-Sensor License	**SH100-50**
100-Sensor License	**SH100-100**
Unlimited-Sensor License	**SH100-U**

Serial Device Controllers for Power Strips

TECH SPECS

Management — SNMP, MIB-II
Memory — 128 KB with 2 KB NVRAM; EPROM: 256 KB
Processor — 68HC000 with SMC91C96 Ethernet coprocessor
Protocols — HTTP, DHCP, DNS, ICMP, IP, PPP, RARP, RIP, SLIP, TCP, UDP, Rlogin, Telnet
Serial Interface — RS-232C, accepts 4-, 6-, and 8-pin plugs, 50 bps to 115.2 kbps, full modem control, hardware and software flow control
CE Approval — With optional 220-VAC power supply
Connectors — All: Network Interface: RJ-45 10BASE-T; Serial Ports: SH120A: (2) RJ-45, SH140A: (4) RJ-45; Modem: All: RJ-11
Indicators — LEDs: (1) Power, (1) Link Integrity
Environmental — Operating Temperature: 32 to 122° F (0 to 50° C); Storage Temperature: 14 to 158° F (-10 to +70° C); Humidity: 10 to 95%, noncondensing
Power — 120-VAC, 60-Hz external power supply; Optional 220-VAC power supply
Size — 1.2"H x 5.9"W x 3"D (3 x 15 x 7.6 cm)
Weight — 0.4 lb. (0.2 kg)

AlertWerks Serial Device Controllers are full-featured serial console servers that work in tandem with the AlertWerks system. Use them to access your network devices' console ports or to communicate with RS-232 serial devices such as printers across your Ethernet network.

The Serial Device Controllers have the ability to translate data from a serial device into a user-defined SNMP MIB. This feature enables your SNMP management software to handle serial devices as ordinary SNMP managed devices.

The controllers can also be used as serial line extenders simply by connecting them serial port to serial port.

Item	Code
AlertWerks Serial Device Controllers for Power Strips	
2-Port	**SH120A**
4-Port	**SH140A**
220-VAC Power Supplies for Serial Device Controllers	
UK	**SH100PS-UK**
EU	**SH100PS-EU**

IP Network Camera and Software

The AlertWerks IP Network Camera is the perfect partner for your environmental sensors—when AlertWerks triggers an alarm, the IP Network Camera is there to give you a look at what's *really* going on.

This network-ready, IP-addressable camera has a 10/100BASE-TX interface you can connect to any compatible port on your network—it doesn't need to be plugged into or be near a sensor hub.

You get an amazing degree of control over what you see with the camera. Use any Web browser to manage the camera through the built-in Web server. Set the camera to trigger an alarm, or set it to trigger when it senses motion with its built-in motion detector. You can even remotely point the camera to where the problem is by using the integrated pan-tilt feature with up to 120° pan and 60° tilt. The picture is always clear with auto-exposure, gain, and white balance, and a night-view mode enables you to see even in low light.

The optional utility software stores and organizes pictures for later use. View photos from anywhere on your network using any standard Web browser, or set the software to e-mail you a picture if an alarm goes off. It enables you to view as many as four cameras simultaneously to stay on top of an emergency. The software runs on Windows® 98/SE, Me, 2000, SP4, XP, SP2, or Windows Vista™.

TECH SPECS FOR THE IP NETWORK CAMERA

Memory — 1 MB Flash
Processor — 120 MIPS RISC
Resolution — 1640 x 480 (VGA), 320 x 240, 160 x 120
Connectors — (1) RJ-45
Power — 120-VAC, 60-Hz external power supply
Size — 2.9"H x 2.4"W (7.4 x 6.1)

Item	Code
AlertWerks IP Network Camera	**SC100A**
Utility Software for the IP Network Camera	**SH100-TSS**

Sensors

AlertWerks supports a wide range of environmental sensors, including temperature, humidity, water, and voltage, as well as dual-purpose sensors. They come with a wide range of cable lengths. Sensors do not require a separate power supply. All sensors poll at one-second intervals and are constructed of Helix high-temperature cable with an RJ-45 connector for connection to a Sensor Hub. A disconnect alarm alerts you when a sensor is disconnected.

AlertWerks enables you to set minimum and maximum thresholds for environmental conditions such as temperature, humidity, and airflow, and alert you when conditions exceed a range that you set. This enables you to prevent problems that can adversely affect equipment operation.

Use the **Temperature Sensor** to monitor temperatures in data centers or in individual cabinets to prevent premature breakdown of your servers, switches, and routers. It measures anything from -67 to +257° F (-55 to +125° C) and is accurate to about 1° F over most temperature ranges.

The **Humidity Sensor** tracks humidity in increments with 3 to 5% accuracy. This enables you to keep the humidity in your data center in an optimum range and prevents the static buildup associated with low humidity or the condensation caused by high humidity.

The **Temperature/Humidity Sensor** combines two of the most popular environmental sensors into a single sensor that requires only one port on a Sensor Hub.

The **Temperature/Airflow Sensor** combines our popular temperature sensor with an airflow sensor. This dual sensor requires only one port on a Sensor Hub.

The **Water Sensor** raises the alarm if the sprinkler system goes off in your data center.

The **Security Sensor** mounts on a doorway, cabinet door, or a window to detect opening or closing. The sensor mounts on one side of the opening, and a magnetic plate (included) mounts on the other side. When the sensor comes close to the magnetic plate, a switch closes, and the Security Sensor reports that it's closed.

The **Voltage Sensor** is for use with 115-VAC power. It has a range of 0–120 VAC and can be set to trigger an alarm if the power goes outside of the range that you define.

The **Dry-Contact Closure Sensor** senses whether a switch is open or closed. Connect it to devices such as burglar alarms, UPS, or climate-control systems. Because the Dry-Contact Closure Sensor is user definable, you can use it for a wide range of applications.

TECH SPECS

Temperature Sensor:
Accuracy — ±0.9° F from 14 to 185° F (±0.5° C from -10 to +85° C)
Polling Rate — Once per second
Range — -67 to +257° F (-55 to +125° C)
Resolution — 0.9° F (0.5° C) increments
Sensor Type — Semiconductor

Humidity Sensor:
Accuracy — ±3% at 20° C, ±5% at other temperatures
Polling Rate — Once per second
Range — 0 to 100% at -4 to +140° F (-20 to +60° C)
Resolution — 1% increments
Sensor Type — Capacitive semiconductor

Temperature/Humidity Sensor:
Accuracy — Temperature: ±0.9° F from 14 to 185° F (±0.5° C from -10 to +85° C);
Humidity: ±3% at 20° C, ±5% at other temperatures
Polling Rate — Once per second
Range — Temperature: -67 to +257° F (-55 to +125° C);
Humidity: 0 to 100% at -4 to +140° F (-20 to +60° C)
Resolution — Temperature: 0.9° F (0.5° C) increments;
Humidity: 1% increments
Sensor Type — Semiconductor

Temperature/Airflow Sensor:
Accuracy — Temperature: ±0.9° F from 14 to 185° F (±0.5° C from -10 to +85° C)
Polling Rate — Once per second
Range — Temperature: -67 to +257° F (-55 to +125° C)
Resolution — Temperature: 0.9° F (0.5° C) increments;
0.9° F (0.5° C) temperature change per minute increments
Sensor Type — Semiconductor

Water Sensor:
Accuracy — Able to measure distilled waters
Polling Rate — Once per second
Range — Wet or dry at -4 to +140° F (-20 to +60° C)
Sensor Type — Microprocessor-controlled, capacitance measurement

Security Sensor:
Polling Rate — Once per second
Range — Alarm/Normal
Sensor Type — Reed dry contact

Voltage Sensor:
Accuracy — ±3% at 68° F (20° C), ±5% at other temperatures
Polling Rate — Once per second
Range — 0–120 VAC
Resolution — ±2 VAC

Dry-Contact Closure Sensor:
Polling Rate — Once per second
Range — Alarm/Normal
Sensor Type — 2-wire

S-103-W-15

Item	Code
AlertWerks Sensors	
Temperature Sensor	
with 15-ft. (4.6-m) Cable	**S100-T-15**
with 60-ft. (18.3-m) Cable	**S100-T-60**
Humidity Sensor	
with 15-ft. (4.6-m) Cable	**S101-H-15**
with 60-ft. (18.3-m) Cable	**S101-H-60**
Temperature/Humidity Sensor	
with 15-ft. (4.6-m) Cable	**S102-TH-15**
with 60-ft. (18.3-m) Cable	**S102-TH-60**
Temperature/Airflow Sensor	
with 15-ft. (4.6-m) Cable	**S105-TA-15**
with 60-ft. (18.3-m) Cable	**S105-TA-60**
Water Sensor	
with 15-ft. (4.6-m) Cable	**S103-W-15**
with 60-ft. (18.3-m) Cable	**S103-W-60**
with 100-ft. (30.5-m) Cable	**S103-W-100**

Item	Code
AlertWerks Sensors (Continued)	
Security Sensor	
with 15-ft. (4.6-m) Cable	**S104-SC-15**
with 60-ft. (18.3-m) Cable	**S104-SC-60**
with 100-ft. (30.5-m) Cable	**S104-SC-100**
Voltage Sensor	
with 15-ft. (4.6-m) Cable	**S106-V-15**
with 60-ft. (18.3-m) Cable	**S106-V-60**
Dry-Contact Closure Sensor	
with 15-ft. (4.6-m) Cable	**S107-CC-15**
with 60-ft. (18.3-m) Cable	**S107-CC-60**
Wireless Smoke Detector	**SD100A**

Why Buy From Black Box? Exceptional Value. Exceptional Tech Support. Period.

Recognize any of these situations?

- **You wait more than 30 minutes to get through to a vendor's tech support.**
- **The so-called "tech" can't help you or gives you the wrong answer.**
- **You don't have a purchase order number and the tech refuses to help you.**
- **It's 9 p. m. and you need help, but your vendor's tech support line is closed.**

According to a survey by Data Communications magazine, 90% of network managers surveyed say that getting the technical support they need is extremely important when choosing a vendor. But even though network managers pay anywhere from 10 to 20% of their overall purchase price for a basic service and support contract, the technical support and service they receive falls far short of their expectations—and certainly isn't worth what they paid.

At Black Box, we guarantee the best value and the best support. You can even consult our Technical Support Experts before you buy if you need help selecting just the right component for your application.

Don't waste time and money—call Black Box today.